

ABSTRACT

A catalyst for the hydrodesulfurization and isomerization of a light hydrocarbon oil, comprising a support comprising zirconium oxide or a zirconium hydroxide, from 1 to 3 wt% sulfuric acid radicals in terms of sulfur amount based on the total weight of the catalyst composition, and (I) from 0.05 to 10 wt% palladium, (II) from 0.05 to 10 wt% palladium and from 0.05 to 10 wt% platinum, or (III) from 0.05 to 10 wt% nickel based on the total weight of the catalyst composition, and having a specific surface area of from 50 to 150 m²/g after stabilization by burning at a temperature of from 550 to 800°C; a process for producing the catalyst; and a method for the hydrodesulfurization and isomerization of a light hydrocarbon oil with the catalyst.